

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

We claim as our invention:

1-2. (canceled)

3. (currently amended) A monoclonal antibody ~~having specificity to that~~ specifically immunoreacts with an intracellular domain of a LAR phosphatase subunit, wherein the antibody does not cross-react with ~~and having no specificity to~~ CD45.

4. (currently amended) The antibody according to claim 1 ~~which~~ 3, wherein the antibody is generated using a polypeptide encoded by a ~~base~~ nucleotide sequence set out in SEQ ID NO: 1 as an antigen.

5. (canceled)

6. (currently amended) The antibody according to claim ~~[[1,]]~~ 3, wherein the antibody is generated using a fusion protein comprising a LAR phosphatase domain and another protein as an immunogen.

7. (currently amended) The antibody according to claim ~~[[1]]~~ 3, wherein the antibody is generated using a GST-LAR phosphatase domain fusion protein as an immunogen.

8. (currently amended) The antibody according to claim ~~[[7]]~~ 7, wherein the GST-LAR phosphatase domain fusion protein is produced by: culturing *Escherichia coli* transformed or transfected with an expression vector comprising a coding region of GST gene and a coding region of a phosphatase domain of LAR gene at about 20-30°C for about 16-24 ~~hours;~~ hours, and isolating the fusion protein from the culture fluid and/or bacterial cells.

9. (currently amended) The antibody according to claim [[8]] 8, wherein the GST-LAR phosphatase domain fusion protein is further purified based on an affinity to a support carrying glutathione wherein the elution of said fusion protein from the support is performed by boiling in the presence of a detergent.

10. (currently amended) The antibody according to claim [[6]] 6, wherein the antibody ~~that was generated using the fusion protein as an immunogen~~ is screened using said fusion protein.

11. (currently amended) A monoclonal antibody ~~having specificity to a LAR phosphatase subunit, which is~~ produced by a hybridoma cell line with Accession No. FERM BP-6343.

12. (currently amended) The antibody according to claim [[5]] 3 having a molecular weight of about 150 kDa.

13. (currently amended) A hybridoma cell line that produces the antibody according to claim [[5]] 3.

14. (original) A hybridoma cell line with Accession No. FERM BP-6343.

15. (currently amended) A method for generating [[an]] a monoclonal antibody having specificity to that specifically immunoreacts with an intracellular domain of a LAR phosphatase subunit, wherein the antibody does not cross-react with CD45, the method comprising a-step steps of:

immunizing an animal with a fusion protein comprising a LAR phosphatase domain and another protein or polypeptide fragment; fragment;

preparing a hybridoma cell line from an antibody-producing cell obtained from the immunized animal; and

producing a monoclonal antibody from the hybridoma cell line, wherein the antibody specifically immunoreacts with an intracellular domain of a LAR phosphatase subunit, and wherein the antibody does not cross-react with CD45.

16. (currently amended) A method for generating ~~[[an]]~~ a monoclonal antibody having specificity to that specifically immunoreacts with an intracellular domain of a LAR phosphatase subunit, wherein the antibody does not cross-react with CD45, the method comprising a step steps of:

immunizing an animal with a GST-LAR phosphatase domain fusion ~~protein~~ protein;

preparing a hybridoma cell line from an antibody-producing cell obtained from the immunized animal; and

producing a monoclonal antibody from the hybridoma cell line, wherein the antibody specifically immunoreacts with an intracellular domain of a LAR phosphatase subunit, and wherein the antibody does not cross-react with CD45.

17. (currently amended) The method according to claim ~~[[16]]~~ 16, wherein the GST-LAR phosphatase domain fusion protein is produced by: culturing ~~Escherichia coli~~ Escherichia coli transformed or transfected with an expression vector comprising a coding region of GST gene and a coding region of a phosphatase domain of LAR gene at about 20-30°C for about 16-24 hours; hours, and isolating the fusion protein from the culture fluid and/or bacterial cells.

18. (currently amended) The method according to claim ~~[[17]]~~ 17, wherein the GST-LAR phosphatase domain fusion protein is further purified based on an affinity to a support carrying ~~glutathione~~ glutathione, wherein the elution of said fusion protein from the support is performed by boiling in the presence of a detergent.

19. (currently amended) The method according to claim 15, further comprising a step of:

screening antibodies generated in the ~~immunizing~~ producing step using said fusion protein to identify an antibody ~~having specificity to that specifically immunoreacts with an intracellular domain of a LAR phosphatase subunit. subunit, wherein the antibody does not cross-react with CD45.~~

20-27. (canceled)

28. (currently amended) The antibody according to claim [[1]] 3, ~~having~~
wherein the antibody's specific immunoreactivity to LAR distinguishes thyroid carcinoma
cells from normal thyroid cells.

29-39. (canceled)